DIALYSIS - ORAL PRESENTATIONS

DO1.Nutritional Status Evaluation And Quality Of Life In Hemodialysis Patients - A Cross Sectional Clinical Study

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Aim:To assess the nutritional status of maintenance hemodialysis (MHD) patients by clinical, scored modified SGA and biochemical methods and correlate these parameters with the SF 36 scores which assess the quality of life.

Materials and methods: It was a Cross Sectional Study conducted at Dialysis Unit, Manipal Hospital, Bangalore between May 2015 to May 2016.

It included 60 stable ambulatory outpatients between 18 to 65 years of age on maintenance hemodialysis for at least 3 months and on oral diet.

Patients with Hospitalization in last 3 months prior to the beginning of the study due to severe illness, sepsis, shock, MODS, coma or surgical conditions were excluded from the study. Patients with symptomatic AIDS, cirrhosis with encephalopathy, severe congestive heart failure, unstable or new onset angina pectoris, chronic pulmonary disease, history of cerebrovascular accident, malignancy or any condition leading to impaired feeding (On tube feeding or parenteral nutrition) were also excluded from the study.

Nutritional status of the patient was assessed using biochemical parameters which included serum albumin, total cholesterol, triglycerides and modified subjective global assessment score which includes weight, dietary Intake, gastro intestinal symptoms, functional capacity, subcutaneous fat, muscle wasting, edema, ascites.

Quality of life was assessed using SF-36 score which includes vitality, physical functioning, bodily pain, general health perceptions, physical,emotional&social role functioning, mental health

Results: 60% of patients were well nourished, 34% were moderately malnourished, and 6% were severely malnourished. Malnutrition was associated with poorer subjective quality of life. Severe malnutrition was also independently associated with poorer physical function

Conclusion: Nutritional status was assessed using subjective global assessment in addition to a number of anthropometric and biochemical parameters. Quality of life was assessed by means of a patient questionnaire SF-36 and assessment of physical functioning. It was concluded that malnutrition is common in chronic haemodialysis patients and is associated with poorer quality of life when the degree of malnutrition becomes severe.

DO2.Plasmapheresis in neurological disorders- A single centre experience

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Introduction: Plasmapheresis is the treatmentof choice in several immune mediated neurological disorders. With the advancement in medical sciences, the list of indications for plasmapheresis is ever growing. However, there are a few studies from India that have looked in to the outcomes and complications related to plasmapheresis. Hence, this study was done to examine the outcomes of plasmapheresis in neurological disorders.

Materials & Methods: A retrospective study of patients who underwent plasmapheresis for neurological disorders during last five years was done. Demographic, clinical data, indications, complications related to the procedure, clinical outcome and long term follow up were collected and analyzed.

Results: Data of sixty patients, who underwent a total of 276 sessions of plasmapheresis were analyzed. Thirty one patients (51%) were males. Twenty nine patients (49%) had Acute Inflammatory Demyelinating Polyradiculoneuropathy, 14 patients(23%) had Myasthenia Gravis and four patients had Acute Disseminated Encephalomyelitis(7%). Other indications were Chronic Inflammatory Demyelinating Polyneuropathy, Transverse myelitis, Polymyositis, Autoimmune Encephalitis, Muscular Dystrophy, NeuroMyeltisOptica, and Febrile Infection Related Epilepsy Syndrome, Forty eight patients (80%) had significant clinical improvement afterplasmapheresis therapy. There were no deaths during hospital stay. In patients with AIDP 26 patients (89%) improved. In patients with MG 11 patients (78%) improved. All patients with Autoimmune encephalitis, Polymyositis, Transverse myelitis and Neuromyelitisoptica improved. There was no improvement in Muscular dystrophy and FIRES patients. Mild coagulopathy was observed in three patients, but there were no bleeding complications. One patient had access complication. There were no other significant complications related to procedure. After a mean follow up period of 3 years, 35 patients had complete remission, 10 patients had relapse, 2 patients died whereas 13 patients lost to follow up.

Conclusion: Plasmapheresis is an effective and safe treatment modality in various immune mediated neurological disorders.

DO3.Assessment of peritoneal membrane characteristics and adequacy of CAPD patients in a tertiary care centre in India

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Aim: To assess andcompare the peritoneal membrane characteristics of Continuous ambulatory peritoneal dialysis (CAPD) patients in a tertiary care centre.

Materials and Methods: In this retrospective studypatients initiated on CAPD betweenJune2009to May 2014 were included. Patients were divided into two study arm among which group one patient were undergoing 4 exchanges per day and group two patients were performing 2 exchanges per day due to financial constraints. Clinically uremic symptoms, residual urine output (RUO) , ultra filtration details was analysed. Peritoneal dialysis equilibration test (PET)and PD adequacy was done on all patients.

Results: In our study totally 170 patients were included of them 100 (59%) were males and 70 (41%) were females. The age ranged from 18 to 71 years with the mean age of 56.3 years. 128(75%) were on 4 bag exchanges (Group 1) and 42(25 %) (Group 2) were on 2 bag exchanges. Over all PET results showed 75 (44 %) high transporter, 43(25 %) High average, 27(16 %) Low average and 25(15 %) were low transporter. The mean PD total Kt/v was 1.8 $\pm$ 0.6 and 1.3 $\pm$ 0.7 in group 1 and group 2 patients respectively. 26(62%) Group 2 patients with good RUO (> 500 ml) had higher Kt/v than patients with poor RUO .36 (21%) patients had ultrafiltration failure during the course of the study.

Conclusion: Most of our study population were high and high average transporters. The PD Total Kt/v is high for patients with good RUO. Even on 2 exchanges per day patients were doing better with CAPD with good RUO. We need a large multi centre study to confirm the above finding in Indian population.

DO4.Epicardial adipose tissue volume as a marker of atherosclerosis in hemodialysis population

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Introduction: Epicardial adipose tissue (EAT) is a visceral fat deposit accumulated between the visceral pericardium and the myocardium. Increased epicardial adipose tissue volume is associated with development of coronary atherosclerosis. It has been reported previously that epicardial adipose tissue volume was higher in CKD patients on hemodialysis and peritoneal dialysis.

Aims & objectives:

1.To measure epicardial adipose tissue volume using CT in CKD patients on hemodialysis

2. To find the association of epicardial adipose tissue volume with coronary artery calcification score (CACS) and carotid intimal medial thickness (CIMT).

3. To find the association of epicardial adipose tissue volume with age, BMI, dialysis vintage, lipid profile.

4. To compare epicardial adipose tissue thickness measured using two different modalities (CT Vs Transthoracic echocardiography)

Materials and methods: Thirty CKD patients on hemodialysis for more than 3 months between ages 18 to 58 years were taken as subjects. Thirty prospective renal donors between ages 18 to 58 years were acted as controls. Patients with active infection, autoimmune disease, cardiac failure, diabetes mellitus, hypothyroidism andh/o chronic smoking wereexcluded. Serum urea, creatinine, glucose, haemoglobin, total cholesterol, triglycerides, calcium, phosphate, albumin were estimated.BMI, dialysis vintage were calculated. Doppler was used to measure carotid intimal medial thickness.Transthoracic echocardiography was used to measure left ventricular ejection fraction and epicardial adipose tissue thickness. CT was used to measure coronary artery calcification score, epicardial adipose tissue thickness and volume. Statistical analysis was carried out by SPSS, Version 20.0. Independent sample‘t’ test , Chi- square test and Pearson coefficient of correlation were used for statistical analysis.

Results:E.A.T volume is increased in 20% (6 out of 30)of cases and 16.67% (5 out of 30)of controls. Mean E.A.Tvolume in cases was 97.83 cc (±26.11) and in controls were 97.87 cc (± 28.53).No statistically significant difference was noted in E.A.T volume between cases and controls.

Mean CACS for cases and controls were 0.4(± 0.0.81) and 0.27(±0.69) respectively. No statistically significant difference noted. Mean CIMT (right) for cases and controls were 0.57mm (±0.1) and 0.57mm (±0.08) respectively. Mean CIMT (left) for cases and controls were 0.59mm (±0.13) and 0.58mm (±0.10) respectively. No statistically significant difference noted.

No significant association was noted using Pearson correlation between CACS(r=0.11, p=0.56),CIMT (right) (r= -0.08, p=0.67),CIMT (left) (r=0.11, p=0.56) with EAT volume in CKD

patients on hemodialysis.No correlation was noted between EAT volume in CKD patients on hemodialysisand other parameters such as age (r=0.15, p=0.44), BMI(r=0.14, p=0.48), Triglycerides (r= -0.003, p=0.99), dialysis vintage(r= -0.185, p=0.328).
However there is significant positive correlation between E.A.T thickness measured using echocardiography versus CT (r=0.94,p<0.05)

Conclusions: The main findings of the present study are as follows:

1. E.A.T volume measured by CT is not increased in most of the CKD patients on HD.
2. No significant correlation found between E.A.T volumewith other parameters (Age, BMI, TGL, dialysis vintage, CACS, CIMT) in CKD patients on HD.
3. Significant positive correlation between E.A.T thicknesses measured using echocardiography and CT.In recent studies, a preferential association between E.A.T volume is made with CACS and CIMT. However we found no association. Our study has some limitations.

1) Sample size was relatively small.2) Short duration of Hemodialysis 3) Since this is not a prospective study, we cannot draw cause and effect relations.

DO5. A cross-sectional study of Psychiatric morbidities in hemodialysis patients in a tertiary care hospital

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Background:In the last 3 years, three HD patients attempted suicide in our unit

Aim: To study the prevalence of Psychiatric Morbidity in HD Patients.

• To assess prevalence of Anxiety, Depression and cognitive function in HD patients
• To study Suicidal risk of patients on HD

Study period : August 2014 – September 2015.

Materials and Methods:A total of 100 patients who were undergoing haemodialysis were randomlyselected for the study.
Socio demographic and clinical details like diabetes, hypertension and alcohol use were collected.

Following tools were used:

Mini International Neuropsychiatry Interview,
Mini Mental Status Examination,
General Health Questionnaire,
Hamilton Anxiety Rating Scale,
Hamilton Depression Rating Scale, and
Beck's Suicide Intent Scale
• Over all time taken was around 1 hour for each patient
Appropriate descriptive statistics were used.

Results:37 patients gave history of alcohol use whilst 33 had diabetes and hypertension and 38 patients had hypertension alone
Depression was the most common co-morbidity noted in 74 (74%)
Anxiety was seen in 59(59%) and
Cognitive decline was noted in 29 patients(29%)
Older age and diabetes were associated with cognitive decline but not with alcohol use or hypertension

Suicidal ideations were seen only in 9 patients and the intent is not severe.
Seventeen patients had one of the psychiatric illness studied.
Seventy eight patients had more than one psychiatric co-morbidity

Conclusion: Psychiatric co-morbidity was seen in a majority of patients(95%) who undergo hemodialysis. This study shows that psychiatry morbidity is commonly seen in and adequately addressing them will go a long way in improving the quality of life of patients with CKD.

DO6 Assessment of volume status in patients on chronic haemodialysis

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Aim: Assessment of volume status by bioimpedance using the Body Composition Monitor(BCM) in haemodialysis patients.

Materials and Methods: The study was undertaken in the Dialysis Unit, Sundaram Medical Foundation, Chennai. Patients undergoing chronic hemodialysis were invited to take part in the study. The Body Composition Monitor(BCM) was used to collect bioimpedance data for extra and intra cellular fluid volume as well as excess fluid volume. The Body Composition Monitor is a non-invasive painless test. The bioimpedance values were compared with a cohort of volunteers, drawn across a wide age-group from the hospital staff.Data with regards to pre- and post-dialysis blood pressures, inter-dialytic weight gain, presence of co-morbid conditions and anti-hypertensive medications were collected from the patients' records. The left ventricular mass index was calculated using the Devereux's formula from the annual ECHO screening report.

Results: Fifty-two patients took part in the study, of whom 33 were male and 19 were female. The mean age was 52.52 ± 12.9 years. Majority of our patients (73%) underwent thrice a week dialysis whilst the remainder doing twice a week dialysis. Twenty-two patients (42%) had diabetic nephropathy as the cause of renal failure. The mean pre-dialysis systolic and diastolic BP were 158.1 ± 21.5 and 92.31 ± 13.5 mm of Hg respectively. The mean post-dialysis systolic and diastolic BP were 158.9 ± 27.0 and 89.6 ± 10.5 mm of Hg. The mean ultrafiltration volume was 3.06 ± 0.9 litres. With regards to bioimpedance analysis, the mean pre-dialysis ECW was 15.07 ± 2.62 litres (0.24 ± 0.04 litres per kg) whilst the mean post-dialysis ECW was 13.35 ± 2.71L (0.21 ± 0.04 litres per kg). The pre-dialysis mean excess fluid was 3.1 ± 2.7 litres. The mean LVMI (Left Ventricular Mass Index indexed to the body surface area) in our patients was 208.33 ± 112.3 g/m^2. Although the patients undergoing twice a week dialysis had significantly lower UF volumes (2.61 ± 1.2 vs. 3.2 ± 0.7 litres, p=0.03), there were no significant differences with regards to ECF volumes or blood pressure (both pre-and post-dialysis) between patients doing twice or thrice a week hemodialysis. Sixteen of our patients (31%) had urine output <100 ml per day. These patients had significantly higher ECF volumes pre-dialysis (0.26 ± 0.05 vs. 0.23 ± 0.04 l/kg, p=0.02) as well as post-dialysis (0.23 ± 0.05 vs. 0.20 ± 0.03 l/kg, p=0.03) compared to those with urine output >100 ml per day. However, there were no significant differences with regards to blood pressure (pre-and post-dialysis), UF volumes or LVMI. The

mean ECF volume in healthy volunteers was 0.197 ± 0.02 litres per kg which was significantly lower than the dialysis patients.

Discussion: Our hemodialysis patients have high ECF volumes compared to healthy volunteers. Residual renal function as implied by urine output rather than the frequency of dialysis seems to be the predominant determinant of volume expansion as evidenced by the bioimpedance analysis.